

NATIONAL SEA GRANT COLLEGE PROGRAM

NATIONAL STRATEGIC INVESTMENTS

POLICY AND IMPLEMENTATION

I. Why Sea Grant National Strategic Investments?

The National Sea Grant College Program has a legislative mandate to “increase the understanding, assessment, development, utilization, and conservation of the nation’s ocean and coastal resources. ” Sea Grant carries out that mission largely through a network of 29 Sea Grant Colleges and Institutions. Recognizing that long-term continuity and the presence of a locally-managed, university-based infrastructure greatly enhance “value” through performance and responsiveness to local issues, state Sea Grant programs have been given more autonomy and more responsibility for addressing Sea Grant’s mandate in their own states and region. National Strategic Investments (NSI) will enable Sea Grant to more effectively address its mandates on a national basis.

There are critical national (and regional) issues that call for a higher level of intensity, broader resources, and sharper focus than is generally practical through the locally-distributed network. National Strategic Investments (NSIs), established in the 1998 Sea Grant reauthorization, enable Sea Grant to address its mandates more effectively on a national basis through a system of national competitions, involving all institutional programs, to carry out larger-scale, focused programs, either alone or in partnership with other funding sources. NSIs will enable the institutional programs to accomplish the following:

- ! They allow Sea Grant to focus significant funds on high-impact, national issues.
- ! They provide a flexible mechanism for Sea Grant to respond to high priority issues and opportunities within NOAA and the Administration without disruption of the strategic objectives of individual programs.
- ! They promote research meritocracy, healthy competition throughout the network, and participation by the best investigators throughout the Sea Grant institutional universe.
- ! They provide a basis for demonstrating the utility of the Sea Grant model in enrolling the capability of the university community to address issues of importance to key national constituencies.
- ! They provide a highly visible platform of accomplishment from which to attract additional funding and promote research results.

- ! They provide the potential to enhance network-wide capabilities (e.g. research and development, education, MAS, and communications), generally not possible through the investment activity of individual institutional programs.
- ! They enable Sea Grant to participate in multi-agency programs addressing critical national issues, enhancing both the Sea Grant NSI and these multi agency programs.

At any one time Sea Grant will fund, primarily through peer reviewed competition, a portfolio of investments in finding solutions to major issues. As with any successful investment strategy, the key points are to emphasize the things the organization does well and to maintain a diversity of investments. Sea Grant's primary role should be research with a demonstrable application or focus on its mission objectives which are directed to the wise use and conservation of the nation's coastal resource problems. It is important to be sure the expertise is available to address the particular issues chosen for NSIs, the resources necessary to solve the problem are not beyond the capabilities of the Sea Grant program, the proposed research takes into account the ongoing programs of other organizations, and that the investment can make a significant impact on our current state of knowledge.

II. The Successful NSI program

A National Strategic Investment is, then, primarily an investment in research focused on a specific set of problems for a designated period of time. Proposed NSIs should have the following specific attributes:

- ! The NSI addresses a problem of national importance.
- ! The NSI clearly identifies the specific area of focus to be addressed with the resources and research talent available and explains why that focus area will make a significant contribution to solving the problem.
- ! The NSI contains specific, measurable research and technology transfer goals and milestones.
- ! The NSI clearly identifies the specific benefits to the nation expected to result from the investment.
- ! Significant progress can be accomplished in the problem area in three to five years and within the resource limitations of the investment fund. Each individual NSI will be a major program investment.
- ! A management structure that permits tracking of progress towards specific goals, undertaking course corrections as needed, and evaluating the ultimate success of the program.

III. Identification of Possible NSI Programs

The generation of ideas for national competitions will be an open process with periodic calls for NSI concept papers from the Sea Grant network and other sources. Casting a wide net will ensure that all constituencies have an opportunity for input and that the most important national issues will be included in the process. Specific input will be sought from the Sea Grant Association (SGA) and its relevant subcommittees, individual Sea Grant programs, the National Sea Grant Office (NSGO), NOAA line and program offices, other federal agencies, and members of the ocean community. A concept paper (5 pages) will be developed for potential NSIs that will include problem definition, rationale, and importance to the national interest and Sea Grant mission (Appendix A).

Commitments to currently funded NSI projects end in FY 1999 or FY 2000. Thus there will be an opportunity for refocusing the activities of these NSIs in line with the approach proposed in this white paper. Concept papers to extend and refocus existing NSIs as well as to initiate new programs will be encouraged.

IV. The Selection Process

The focal point for evaluation of ideas/concepts will be the Science and Technology Task Group. The S&T Task Group is a subcommittee of the National Sea Grant Review Panel and is comprised of representatives of the SGA, NOAA line and program offices, and other eminent marine science professionals. Specifically the Task Group's charge includes the following:

- ! Recommend new NSIs for implementation by Sea Grant.
- ! Evaluate the effectiveness and quality of the portfolio of national strategic investments and make recommendations on changes in allocation to address new opportunities.
- ! Provide advice on other matters of science and technology as requested by the Director of the National Sea Grant Office or the Chair, National Sea Grant Review Panel.

In order to accomplish its responsibility for selecting which of the NSIs will be recommended for implementation by the Sea Grant network, the Task Group will review and rate the proposed investments based on the following criteria plus consideration of the overall NSI portfolio:

- ! The importance of the problem or issue to the nation.
- ! The impact of the proposed research agenda on the problem or issue and the benefits to the nation.
- ! The capacity of the Sea Grant community to address the problem.

- ! Balance and impact of the overall portfolio of investments in the competitive pool in relation to potential benefits from new opportunities.
- ! The potential for leveraging the scope and resources of the proposed NSI through involvement of other NOAA units, federal agencies, or other partners in the private and non-profit sectors.

After careful review of the existing portfolio and potential new NSIs taking into account ongoing programs within the Federal research establishment, the Task Group will make recommendations to the Director, NSGO concerning the addition of new investments and the possible discontinuance or refocusing of existing programs.

V. The NSI Program Development Plan

Once the NSI concepts are selected for further development, a steering committee will be appointed by the NSGO from the Sea Grant community and appropriate partners. The steering committee will develop a plan for implementing the NSI, including appropriate processes for management and evaluation. One or more workshops involving the research community may be necessary as part of the program development plan (PDP) process leading to a request for proposals. Information transfer and integration/synthesis of the results should be an integral part of the program design. (An outline of a PDP process is specified in Appendix B). An important aspect of the program development plan will be the organization of the research program. The organizational approach proposed should be in keeping with the scope and complexity of the proposed effort.

A NSI steering committee should take the approach that will best allow it to achieve the specific goals of the initiative. How the research is to be organized will dictate not only the scientific and management approach but also the process of proposal solicitation, review, and funding.

VI. NSI Proposal Solicitation, Review, and Funding

Once the detailed objectives of the NSI are developed, the NSGO in cooperation with the steering committee will develop a specific call for proposals. The process of proposal solicitation, review, and funding should be one that is seen to be open and free of conflict of interest. Procedures exist for operation of the proposal process in Sea Grant Institutional programs. Similar guidelines will be developed for NSI proposal process. The primary responsibility for process lies with the NSGO, working closely with individual steering committees. The NSGO may choose to delegate the responsibility for implementing the proposal solicitation and review process to a steering committee or a subset of the committee if appropriate and feasible. However the NSGO retains ultimate responsibility for the integrity of the process. All funding will be through the Sea Grant network.

VII. NSI Management

Each NSI will have a defined management structure appropriate to the specific activity. A basic concept will be to keep management/coordination at the lowest level necessary with the active participation of researchers and outreach personnel. The management organization should consider how the NSI will involve stakeholders in the project, the coordination of research among investigators, the evaluation of progress, the synthesis results, and the transfer of findings to users.

Each NSI shall have a NSGO program officer assigned to assist the management team in its operation. It is expected that the program officer or a member of the steering committee will be asked to brief the S&T Task Group, NSGRP on the progress of the NSI program.

VIII. Evaluation

Evaluation of an NSI must be an ongoing process, not only during the life of the investment, but in the years following completion of the research program. While some impacts from the successful completion of the program may be apparent immediately, other impacts may well follow years later. The evaluation procedure must be capable of capturing these later impacts as well. Directors of Sea Grant Institutional programs would be expected to capture these later impacts as part of the evaluation process for their overall program. The procedures for NSI evaluations will build on the recently established procedures for the evaluation of Sea Grant Institutional programs.

A. Internal Evaluation

The program officer, working with the steering committee, will have primary responsibility for the evaluation of the progress of the NSI towards its defined goals. The committee, working with the researchers, that will track progress towards milestones, recommend changes and corrections in the research program, and generally insure that the program is moving in the desired direction.

B. End of Project Evaluation

After the completion of the research portion of a NSI or at periodic intervals the program officer will undertake an evaluation of the program to determine:

- ! If the NSI has met its programmatic goals and what will be the likely impact?
- ! If the organization and management of the program could have been better? If so, how?
- ! If the NSI was not fully successful, what lessons have been learned about NSI topic selection and program organization that can be applied to future NSIs?

C. Ongoing Evaluation

Because it may take a period of time for the results of a successful research program to be widely adopted in practice, it is essential that a follow up tracking system be developed to capture future applications. In addition, a small evaluation team might revisit each NSI some years after completion to assess long-term impacts.

IX. Summary

While focused research programs with their attendant management requirements are a common approach in federal laboratories and in industry, their application to university-based research requires a recognition of the unique environment of the university. Focused, organized research programs are possible in universities as Sea Grant, NSF, ONR, NOAA's Coastal Ocean Program, and others have demonstrated. However their successful implementation requires recognition that university faculty must have a major voice in the planning and conduct of the program. Sea Grant first undertook a series of successful major focused research programs 20 years ago. The talent and experience exists in the Sea Grant network to enable these programs to be successful again in 2000 and beyond.

Appendix A

National Strategic Investment Concept Paper Format (5 pages)

- I. What is the national problem or issue?
 - II. What specific research and technology transfer program is proposed?
 - III. What will be the benefits and impacts from successful completion of the program?
 - IV. Why is Sea Grant best able to undertake the program?
 - V. How does the proposed program relate to other proposed or ongoing research efforts addressing this issue?
 - VI. Why can this proposed program be completed in five years or less?
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Appendix B

Suggested Program Development Plan Outline

I. The Issue/Problem

What is the issue/problem being addressed?

What is the urgency of the issue/problem? Why does it need to be done now?

II. What must be done

What is the current base of knowledge?

What must be added to the knowledge base to achieve the desired impact?

What other research programs are addressing the issue? How does this program relate to those?

III. The Impact on the Issue/Problem

What impact will the proposed research and technology transfer program have on the issue/problem?

IV. Program Description

A. Program Goals and Objectives

What are the overall goals and objectives of the NSI?

B. The Research Program

What are the goals of the research program?

How will the research be organized and carried out?

C. Synthesis and Integration Activities

How will the research findings be synthesized and integrated into the existing body of knowledge to achieve the program's goals?

D. Outreach and Technology Transfer

How will the information generated by the research and synthesis efforts be transmitted to users to achieve the desired impact on the issue/problem?

E. Program Management

How will the NSI be managed to achieve its goals and objectives?

How will progress towards program goals and objectives be evaluated?

What performance measures and milestones will be used?

V. Readiness

Who are the research and outreach communities that would be expected to have an interest in the NSI and thus would respond to an RFP?

VI. Cost and Time

How long will it take to complete this NSI and at what annual cost?

Appendix C

Sea Grant Science and Technology Task Group Members, 1998

Chair: Marne A. Dubs

Member, National Sea Grant Review Panel

Roger W. Hanson

Member, National Sea Grant Review Panel

Jerry R. Schubel

Director, New England Aquarium

G. Ross Heath

Dean Emeritus, College Of Fisheries and Oceanography, and
Professor of Oceanography, University of Washington

James J. Sullivan

Director, California Sea Grant College System

Anders W. Andren

Director, Wisconsin Sea Grant College Program

Alfred M. Beeton

Acting Chief Scientist, NOAA (Retired)

David L. Evans

Deputy Director, National Marine Fisheries Service, NOAA

Donald Scavia

Director, Coastal Ocean Program, National Ocean Service, NOAA

John A. Calder

Deputy Director, Environmental Research Laboratories,
Oceanic and Atmospheric Research, NOAA

Leon M. Cammen: National Sea Grant Office Liaison

Research Team Leader, NSGO, NOAA

Appendix D

Schedule for Initial Implementation of NSI Process

In order to have an NSI process in place by the year 2000 the following schedule is proposed:

- 1) A working draft of this policy paper will be submitted to the January 7-8, 1998 NSGRP meeting for information and comment. Based on feedback from the NSGRP, the working draft will be revised as necessary.
- 2) Policy paper reviewed and revised following S&T Task Group meeting in late January or early February, 1998
- 3) Revised paper reviewed at NSGRP executive committee meeting March 9, 1998 and SGA meeting March 10-11, 1998.
- 4) NSGO issues call for NSI concept papers in June, 1998
- 6) NSGRP approves policy paper as a Panel Position Paper in summer, 1998
- 7) S&T Task Group reviews investment portfolio and concept papers received. Makes recommendations for NSI portfolio changes and additions in September, 1998
- 8 RFP for NSI developed by the NSGO in late November 1998 (budget permitting) for distribution by individual Sea Grant programs.
- 9) First NSI awards made effective February or March, 2000.

The first NSIs will likely be programs which are currently well along in conceptual development and for which a PDP can be prepared quickly. NSIs that need more time to go from the concept to the developed PDP can be scheduled for consideration for future year startups.